

ABSTRACT

A simulation apparatus is operable to simulate propagation of light within a scene. The apparatus defines an environment containing a plurality of discrete paths in a plurality of directions, along which energy is propagated in the environment. The apparatus determines the positions of objects and light sources in a scene, and records points on the paths, at each of which points there is an intersection of an object or light source within the scene with the path. The apparatus identifies propagation of light source from the light sources, along the paths, and to further paths in accordance with the intersections. A corresponding method is also provided. Distribution of propagation of other energy, such as sound or heat, can be simulated in addition to or as an alternative to light propagation simulation.